



Disclosure to Promote the Right To Information

Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 6175-1 (1992): Screwing Taps, Part 1: Hand, and Short Machine Screwing Taps for ISO Metric Screw Threads Sizes M1 to M2.5 [PGD 32: Cutting tools]

“ज्ञान से एक नये भारत का निर्माण”

Satyanaaranay Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartṛhari—Nītiśatakam

“Knowledge is such a treasure which cannot be stolen”



BLANK PAGE



PROTECTED BY COPYRIGHT

IS 6175 (Part 1) : 1992

(Reaffirmed 2002)

Edition 3.1

(1996-01)

भारतीय मानक

पेंच वाली चूड़ियाँ काटने के औजार

भाग 1 आई एस ओ की मीटरी पेंच चूड़ियों साइज एम 1 से एम 2.5 के लिए हाथ वाले और छोटे मशीन द्वारा पेंच वाली चूड़ियाँ काटने के औजार — विशिष्टि

(दूसरा पुनरीक्षण)

Indian Standard SCREWING TAPS

**PART 1 HAND AND SHORT MACHINE SCREWING TAPS FOR
ISO METRIC SCREW THREADS SIZES M1 TO M2.5 — SPECIFICATION**

(Second Revision)

(Incorporating Amendment No. 1)

UDC 621.993.1 : 621.882.082.1

© BIS 2002

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Price Group 2

FOREWORD

This Indian Standard (Second Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Thread Cutting Taps and Dies Sectional Committee had been approved by the Production Engineering Division Council.

This standard was first published in 1971 and revised in 1977 splitting into three parts. In the present revision the following changes have been made:

- | a) The dimensions for threaded portion of the taps have been deleted and now covered in IS 6173 (Part 1) : 1992. This was not covering for all the types of serial screwing taps and it was repeating in all the product standards, and
- | b) A common sketch for both coarse and fine pitches given.

This standard is in full conformity with ISO 529 : 1975 'Short machine taps and hand taps', issued by International Organization for Standardization (ISO).

The other Indian Standards on screwing taps of this series are:

IS 6175 Screwing taps

(Part 2) : 1992 Part 2 Hand and short machine screwing taps for ISO metric screw threads sizes M3 to M10 — Specification (*second revision*)

(Part 3) : 1992 Part 3 Hand and short machine screwing taps for ISO metric screw threads sizes M3 to M68 with coarse pitches and M3 to M100 with fine pitches — Specification (*second revision*)

(Part 4) : 1991 Part 4 Long shank machine screwing taps for ISO metric screw threads sizes M3 to M24 — Specification (superseding IS 7821)

(Part 5) : 1991 Part 5 Nut screwing taps for ISO metric screw threads sizes M3 to M68 with coarse pitches — Specification (superseding IS 6174)

| (Part 6) : 1992 Part 6 Screwng taps for pipe threads parallel G series — Specification (superseding IS 6172)

| (Part 7) : 1992 Part 7 Screwng taps for pipe threads parallel Rp series — Specification (superseding IS 6172)

| (Part 8) : 1992 Part 8 Screwng taps for pipe threads taper Rc series — Specification (superseding IS 7796)

This edition 3.1 incorporates Amendment No. 1 (January 1996). Side bar indicates modification of the text as the result of incorporation of the amendment.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

SCREWING TAPS

PART 1 HAND AND SHORT MACHINE SCREWING TAPS FOR ISO METRIC SCREW THREADS SIZES M1 TO M2.5 — SPECIFICATION

(Second Revision)

1 SCOPE

This standard covers the dimensions and requirements for hand screwing taps and short machine screwing tap for ISO metric screw threads in the size range M1 to M2.5 with coarse and fine pitches, conforming to IS 4218 (Parts 1 to 6) and with a full diameter shank and taper connecting portion.

IS No.	Title
4218	ISO metric screw threads: (Part 1) : 1976 Basic and design profiles (<i>first revision</i>)
	(Part 2) : 1976 Diameter pitch combinations (<i>first revision</i>)
	(Part 3) : 1976 Basic dimensions for design profiles (<i>first revision</i>)
	(Part 4) : 1976 Tolerancing system (<i>first revision</i>)
	(Part 5) : 1979 Tolerances (<i>first revision</i>)
	(Part 6) : 1978 Limits of sizes for commercial bolts and nuts (diameter range 1 to 52 mm) (<i>first revision</i>)

2 REFERENCES

The following Indian Standards are necessary adjuncts to this standard:

IS No.	Title
6171 : 1992	Screwing taps — Technical supply conditions
6173	Screwing taps — Dimensions (Part 1) : 1992 and tolerances on threaded portion of screwing taps: Part 1 For ISO metric screw threads

3 GENERAL DIMENSIONS

3.1 Dimensions of screwing taps for ISO metric screw threads, coarse pitch shall be as given in Table 1 read with Fig. 1.

3.2 Dimensions of screwing taps for ISO metric screw threads, fine pitch shall be as given in Table 2 read with Fig. 1.

NOTE — The figure is indicative of dimensions only and does not specify design features.

4 TOLERANCES

4.1 Tolerances on threaded length and overall length and radial run-out shall be according to IS 6171 : 1992.

4.2 Dimensions and tolerances on threaded portion of screwing taps shall be according to IS 6173 (Part 1) : 1992.

5 MATERIAL

The material of screwing tap shall be given in 4 of IS 6171 : 1992.

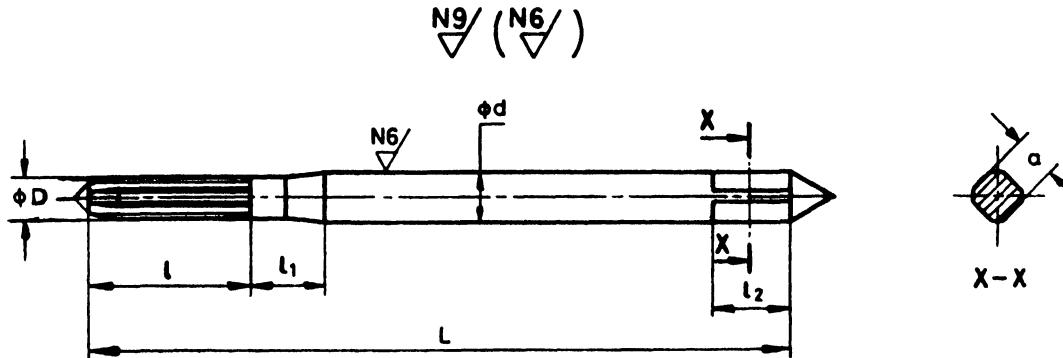


FIG. 1 DIMENSIONS FOR MACHINE SCREW TAPS

IS 6175 (Part 1) : 1992

6 HARDNESS

The hardness of screwing tap shall be as given in 5 of IS 6171 : 1992.

7 GENERAL REQUIREMENTS

7.1 The number of flutes shall be two or three.
7.2 The requirements not covered in this standard, shall conform to the requirements of IS 6171 : 1992.

8 DESIGNATION

8.1 Screwng taps shall be designated by the name, nominal size, number of this standard and material from which it is made.

A non-serial screwng tap of size M2 with tolerance class 6H and made from high speed steel (HSS), shall be designated as:

Set of 3 Taps
Screwing Tap IS 6175 (Part 1) M2 HSS

Taper Tap

Screwing Tap Taper IS 6175 (Part 1) M2 HSS

Second Tap

Screwing Tap Second IS 6175 (Part 1) M2 HSS

Bottoming Tap

Screwing Tap Bottoming IS 6175 (Part 1)
M2 HSS

8.2 A serial screwng tap of size M2 and made from high speed steel (HSS) shall be designated as:

Set of 3 Taps

Screwing Tap Serial IS 6175 (Part 1) M2 HSS

Rougher Tap

Screwing Tap Rougher IS 6175 (Part 1)
M2 HSS

Intermediate Tap

Screwing Tap Intermediate IS 6175 (Part 1)
M2 HSS

Finisher Tap

Screwing Tap Finisher IS 6175 (Part 1)
M2 HSS

8.3 When the screwng tap is desired for class of tolerance other than 6H, class of tolerance 4H or 7H or 7H cut threads as appropriate, shall be mentioned in the designation immediately after the size.

9 MARKING

9.1 Screwng taps shall be marked with appropriate information as per 10 of IS 6171 : 1992.

**Table 1 Dimensions of Screwng Taps for ISO Metric Threads Coarse Pitch
(Clause 3.1 and Fig. 1)**

All dimensions in millimetres.

Designation	Nominal Dia <i>D</i>	Pitch	<i>d</i> h9	<i>l</i>	<i>L</i>	<i>l</i> ₁	Square	
							<i>a</i> h11	<i>l</i> ₂
M 1	1	0.25	2.50	5.5	38.5	4.5	2.00	4
(M 1.1)	1.1	0.25	2.50	5.5	38.5	4.5	2.00	4
M 1.2	1.2	0.25	2.50	5.5	38.5	4.5	2.00	4
(M 1.4)	1.4	0.3	2.50	7.0	40.0	5.0	2.00	4
M 1.6	1.6	0.35	2.50	8.0	41.0	5.0	2.00	4
(M 1.8)	1.8	0.35	2.50	8.0	41.0	5.0	2.00	4
M 2	2	0.4	2.50	8.0	41.0	5.5	2.00	4
(M 2.2)	2.2	0.45	2.80	9.5	44.5	6.0	2.24	5
M 2.5	2.5	0.45	2.80	9.5	44.5	6.0	2.24	5

NOTE — Non-preferred sizes are given in parentheses.

Table 2 Dimensions of Screwing Taps for ISO Metric Threads Fine Pitch
(Clause 3.2 and Fig. 1)

All dimensions in millimetres.

Designation	Nominal Dia <i>D</i>	Pitch	<i>d</i> h9	<i>l</i>	<i>L</i>	<i>l₁</i>	Square	
							<i>a</i> h11	<i>l₂</i>
M 1 × 0.2	1	0.2	2.50	5.5	38.5	4.5	2.00	4
(M 1.1 × 0.2)	1.1	0.2	2.50	5.5	38.5	4.5	2.00	4
M 1.2 × 0.2	1.2	0.2	2.50	5.5	38.5	4.5	2.00	4
(M 1.4 × 0.2)	1.4	0.2	2.50	7.0	40.0	5.0	2.00	4
M 1.6 × 0.2	1.6	0.2	2.50	8.0	41.0	5.0	2.00	4
(M 1.8 × 0.2)	1.8	0.2	2.50	8.0	41.0	5.0	2.00	4
M 2 × 0.25	2	0.25	2.50	8.0	41.0	5.5	2.00	4
(M 2.2 × 0.25)	2.2	0.25	2.80	9.5	44.5	6.0	2.24	5
M 2.5 × 0.35	2.5	0.35	2.80	9.5	44.5	6.0	2.24	5

NOTE — Non-preferred sizes are given in parentheses.

Standard Mark

The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made thereunder. The Standard Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well defined system of inspection, testing and quality control which is devised and supervised by BIS and operated by the producer. Standard marked products are also continuously checked by BIS for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

Bureau of Indian Standards

BIS is a statutory institution established under the *Bureau of Indian Standards Act, 1986* to promote harmonious development of the activities of standardization, marking and quality certification of goods and attending to connected matters in the country.

Copyright

BIS has the copyright of all its publications. No part of these publications may be reproduced in any form without the prior permission in writing of BIS. This does not preclude the free use, in the course of implementing the standard, of necessary details, such as symbols and sizes, type or grade designations. Enquiries relating to copyright be addressed to the Director (Publications), BIS.

Review of Indian Standards

Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard along with amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the latest issue of 'BIS Catalogue' and 'Standards : Monthly Additions'.

This Indian Standard has been developed from Doc : No. PE 13 (5520)

Amendments Issued Since Publication

BUREAU OF INDIAN STANDARDS

Headquarters:

**Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110002.
Telephones: 323 0131, 323 3375, 323 9402**

**Telegrams: Manaksansta
(Common to all offices)**

Regional Offices:

Telephone

Central	: Manak Bhavan, 9 Bahadur Shah Zafar Marg NEW DELHI 110002	{ 323 76 17 323 38 41
Eastern	: 1/14 C. I. T. Scheme VII M, V. I. P. Road, Kankurgachi KOLKATA 700054	{ 337 84 99, 337 85 61 337 86 26, 337 91 20
Northern	: SCO 335-336, Sector 34-A, CHANDIGARH 160022	{ 60 38 43 60 20 25
Southern	: C. I. T. Campus, IV Cross Road, CHENNAI 600113	{ 235 02 16, 235 04 42 235 15 19, 235 23 15
Western	: Manakalaya, E9 MIDC, Marol, Andheri (East) MUMBAI 400093	{ 832 92 95, 832 78 58 832 78 91, 832 78 92
Branches	: AHMEDABAD. BANGALORE. BHOPAL. BHUBANESHWAR. COIMBATORE. FARIDABAD. GHAZIABAD. GUWAHATI. HYDERABAD. JAIPUR. KANPUR. LUCKNOW. NAGPUR. NALAGARH. PATNA. PUNE. RAJKOT. THIRUVANANTHAPURAM. VISHAKHAPATNAM.	